



Scanned By	Date	DOC ID	Permit
Backus	03/29/2016	25831	25I-LCID-

46 W. Washington Street
 Coats, North Carolina 27521
 (910) 897-7070 • Fax (910) 897-6767
 www.daa.com

March 25, 2016

NC Department of Environment and Natural Resources
 Division of Waste Management - Solid Waste Section
 Attn: Patricia M. Backus, P. E.
 1646 Mail Service Center
 Raleigh, NC 27699-1646

APPROVED

DIVISION OF WASTE MANAGEMENT

SOLID WASTE SECTION

Date 07/11/2016 By Patricia M. Backus

DIN 25831

Attachment 1 Part V Document 4

Permit 25I-LCID- Permit DIN 26442

**RE: Application for Renewal Request
 Cieszko LCID Landfill
 SWS Permit No. 25-I
 (via email and UPS)
 Draper Aden Associates Project No. R16104N-01**

Dear Ms. Backus:

On behalf of the Cieszko LCID Landfill, please find attached 1 copy of the application for renewal of the Cieszko LCID Landfill permit. Below is a table of general facility information as requested in the application guidance document. Also attached to this letter are the following items:

1. Airspace Analysis and Expected Life Calculation
2. Executed Applicant Signature Page
3. Updated Operational Plan
4. Updated Facility Plans (6 sheets)

We hope that this information is sufficient for the permit renewal. Should you have any questions, concerns, or need additional information, please do not hesitate to contact our office at the numbers below.

Sincerely,
DRAPER ADEN ASSOCIATES

C. Tyrus Clayton, Jr.
 C. Tyrus Clayton, Jr., PE
 Senior Project Manager

attachments

cc: file
 Martin Cieszko (via email)

General Facility Information

Facility Name	Cieszko LCID Landfill
SWS Permit No.	25-I (Issued May 8, 2006, renewed April 5, 2011) (Originally opened as 25-E Cieszko Demolition Landfill, October 11, 1989) (Permit number change to 25-G, April 13, 1992) (25-G Closure, April 26, 2005)
Facility Address	NC Hwy 101, Havelock, NC (4.0 miles East of Hwy 70 and Hwy 101 Intersection) GPS COORDINATES: N: 34.87495 E: 076.84969
Applicant/Owner Information	Cieszko Construction Company, Inc. Attn: Martin Cieszko PO Box 690 Havelock, North Carolina 28532 (252) 447-2096 (252) 447-0687 fax martin@cieszkoconstruction.com
Applicant's Consulting Engineer	Draper Aden Associates Attn: C. Tyrus Clayton, Jr., PE PO Box 578 46 West Washington St. Coats, NC 27521 (910) 897-7070 (910) 897-6767 fax tclayton@daa.com
Other NC DENR Permits	Erosion and Sediment Control Plan Crave 2006-008, dated Sept 19, 2005 Stormwater Management Permit SW7050833, dated October 27, 2005

Expected Life Remaining in Cell								
<u>Design Info</u>								
		Total Space =	273,109	cyds				
		Total Airspace =	242,085	cyds				
		2-ft Final Cover =	31,023	cyds				
<u>Calculation of Life Expectancy of New Cell</u>								
1)	Total volume used since 2011							
		=	57,001	cyds	(based on February 2016 survey)			
		Time =	5.0	years				
		=	11,400	cyds/year				
2) Time left before design grade (minus 2-ft final cover) is met								
	Total Volume Available =		242,085	cyds	(Design)			
	Total Volume Used =		54,523 (2006-2011) + 57,001 (2011-2016) = 111,524					cyds
	Total Volume Available NOW =		242,085 – 111,524 = 130,561					cyds
	Time Left =		130,561 cyds / 11,400 cyd/year					
		=	11.6	Years				

Disclaimer: Due to the nature of the operation of this facility, the above numbers are an estimate only. This facility is operated on an as-needed basis by the owner to support the general contracting and building business. As the nature of the projects the owner undertakes changes, the volume of waste being disposed will also change. The volume may increase or decrease.

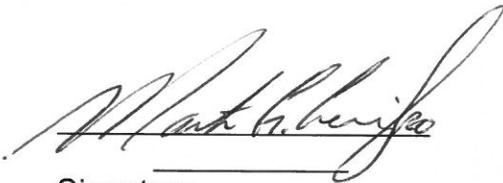
As such, the attached plans depict four main fill cells for the landfill.

Applicant Signature Page

Name of facility Cieszko LCID Landfill

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision and that the information provided in this application is true, accurate, and complete to the best of my knowledge.

I understand that North Carolina General Statute 130A-22 provides for administrative penalties of up to fifteen thousand dollars (\$15,000.00) per day per each violation of the Solid Waste Management Rules. I further understand that the Solid Waste Management Rules may be revised or amended in the future and that the facility siting and operations of this solid waste management facility will be required to comply with all such revisions or amendments.



Signature

Martin G. Cieszko

Print Name

Date

23 Mar 2016

President
Title

Cieszko Construction Co. Inc
Business or organization name



**CIESZKO LAND CLEARING AND INERT DEBRIS LANDFILL
OPERATION PLAN
SWS PERMIT No. 25I-LCID**

The following Operation Plan has been created for the **Cieszko Land Clearing and Inert Debris Landfill** in accordance with NCDENR-SWS Rule 15A NCAC 13B .0566.

The following Operation Plan has been created for the **Cieszko Land Clearing and Inert Debris Landfill** (Cieszko LCID LF) in accordance with NCDENR-SWS Rule 15A NCAC 13B .0566. as operated by CIESZKO CONSTRUCTION COMPANY, Inc. This plan discusses the operation of this solid waste management facility:

1. This plan discusses the operation of the following solid waste management activities:
 - a. LCID Landfill
 - b. Landfill mining for processing
 - c. Wood waste processing and reuse
 - d. Reuse and processing of existing LCID landfill debris
 - e. Crushing of block, brick, and concrete debris
2. The approved plans shall be followed. The information contained within the approved plans were prepared to provide facility operating personnel with an understanding of how the Design Engineer assumed the facility would be operated. Minor deviations from the plan outlined herein are expected and anticipated. However, deviations should be reviewed and approved by the Design Engineer.
3. The operations of this facility should be conducted to comply with the rules stated in NCDENR-SWS Rule 15A NCAC 13B .500 and .300.
4. All required records, correspondence, etc. that pertain to the operation and permit compliance of this facility will be stored at the landfill office:
5. All required records, correspondence, etc. that pertain to the operation and permit compliance of this facility will be stored at the office of Cieszko Construction Company, Inc. located at:

Cieszko Construction Company, Inc.
249 US Highway 70 W
Havelock, NC 28532
(252) 447-2096

Should this location change, the Owner will notify the NCDENR – Solid Waste Section of the change.

6. The Design Engineer for this facility is as follows:

Draper Aden Associates
46 W. Washington Street
Coats, NC 27521
Phone: (910) 897-7070
Fax: (910) 897-6767
Contact: C. Tyrus Clayton, Jr., PE
tclayton@daa.com

7. In the event of an emergency, 911 should be contacted immediately. The 911 operator will dispatch the appropriate emergency personnel based upon the assessment of need.
8. This facility will be open normally Monday thru Friday from 7am to 5pm. During specific projects, the facility may extend its operating hours later during the day, or be open on Saturday and/or Sunday. Refer to Item 9 below.
9. The Cieszko LCID Landfill will be for the private use of the Cieszko Construction Company. The site will be secured with a locked gate. Approved LCID waste will be brought through the locked gates to the appropriate disposal area. Signs will be posted at the entrance to the facility showing the contact name and number and the permit number. Signs are also placed throughout the site giving information regarding allowable waste, procedures for dumping and traffic patterns.

The site is surrounded by a combination of fencing and natural barriers such as ditches and thick vegetation. The fencing and natural barriers should be maintained to discourage unauthorized entry into the site.

Access to the site shall be limited only to operational hours in order to prevent the following:

- Unauthorized and illegal dumping of waste materials
- Trespassing and possible injury resulting from the act
- Vandalism

Facility attendants should be present at all times during operational hours to enforce facility rules and restrict unauthorized access.

10. Access roads are of all-weather construction and will be properly maintained.
11. The Cieszko LCID Landfill will accept only waste as defined in 15A NCAC 13B .0563 (1)(a). No other waste shall be permitted in this area. The list of wastes accepted at the LCID landfill for disposal or processing is as follows:
 - a. Stumps
 - b. Trees
 - c. Limbs
 - d. Brush or Yard Trash
 - e. Other naturally occurring vegetative material
 - f. Unpainted concrete
 - g. Unpainted brick
 - h. Unpainted concrete block

- i. Uncontaminated soil, gravel or rock
 - j. Asphalt
 - k. Untreated, unpainted wood
 - i. Note that pallets, dimensional lumber, or any wood material that is considered to be construction and demolition debris (*as defined by G.S. 130A-290(a)(44a)*) may not be disposed of within the LCID landfill.
 - l. Other wastes as approved by the Division of Waste Management - NCDEQ.
12. The onsite attendant will visually check incoming loads for unauthorized waste and redirect the hauler as appropriate. Hazardous waste and liquids are not accepted. Other unacceptable waste such as waste tires, appliances, construction and demolition debris, and household garbage are acceptable at other locations within the facility. Any unacceptable material found on the landfill will be removed, appropriately stored as necessary, and delivered to an approved/permitted facility or landfill for that type of waste. Standard procedures for waste handling and hauling, as dictated by state and federal laws, will be followed. Unacceptable wastes will be removed from the facility on a daily basis.
- a. Attached is a Waste Screening Form that will be utilized by facility operational staff.
13. The following equipment will be utilized for operation of the LCID Landfill. This equipment is either currently owned by CIESZKO CONSTRUCTION COMPANY, Inc. or will be leased or contracted for periodic operations.
- a. Excavator - *for general soil or waste excavation*
 - b. Bulldozer – *for waste placement, grading, and compaction*
 - c. Dump Truck – *for material hauling*
 - d. Grinder/Screening Equipment – *for stored material or existing waste processing (contracted for periodic operation onsite)*
14. Waste will not be disposed of in standing water.
15. The LCID will not permit “hot” loads or waste loads smoldering or on fire. In addition, no open burning is allowed at the landfill. For major fires, the primary fire control policy for the Facility consists of notifying 911, and waiting for their response. A secondary fire control policy consists of utilizing onsite equipment, water, and soils to contain and control small fires if feasible, until the Fire Department can arrive.

If a burning load arrives on the entrance, the load is directed to and dumped on concrete or on an area of bare soil away from flammable materials once the general public has been evacuated from the area. The fire is to be extinguished by smothering with soil or by water pumped from the surrounding ponds. The landfill facility has an ample supply of stockpiled borrow soils and impounded water within a short distance of all waste disposal areas.

In accordance with Rule 15A NCAC 13B.0505(10)(c), fires that occur at the Cieszko LCID Landfill require verbal notice to the Division of Solid Waste

within 24 hours and written notification shall be submitted within 15 days. Written notification will consist of the DWM "Solid Waste Management Facility Fire Occurrence Notification" form (form attached). Verbal and written notification shall be submitted to the Raleigh Regional Waste Management Specialist:

Department of Environmental Quality
Division of Waste Management
1646 Mail Service Center
Raleigh, North Carolina 27699-1646
(919) 707-8200

16. In order to maintain an orderly work area and to minimize erosion, the working face of the LCID will be kept as small as possible with a ½ acre maximum size. Waste will be compacted as densely as practical. Waste will be deposited in the upper areas first until final grades are reached, thus ensuring that surface runoff is flowing away from the working face.

- a. Periodic Cover: On a weekly basis, or sooner as needed to maintain a ½ acre working face, a minimum of a 6-inch layer of soil or other material as approved by DWM will be placed over the exposed waste. This cover is intended to control vectors, fire, odors, and blowing debris.
- b. Intermediate Cover: In areas that have not received waste in the previous 30 days or the exposed waste reaches one acre in size, but are below the final grades of the LCID, shall be covered with a 12-inch layer of soil material. This cover should be graded properly to divert precipitation to the onsite storm water system and seeded/mulched immediately.
- c. Final Cover: On or before 120 calendar days, or 30 working days after completion of any phase of disposal operations, or upon revocation of a permit, the disposal area shall be covered with a minimum of one foot of suitable soil cover sloped to allow surface water runoff in a controlled manner. The soil cover shall be fertilized, limed and seeded. Erosion control matting shall be applied to assist in achieving stabilization. Further actions in order to correct any condition which is or may become injurious to the public health or a nuisance to the community may be required by NCDEQ.

17. The site will be graded using a bulldozer to ensure that proper drainage of the area is maintained, thus diverting water away from the working face and eliminating any ponding of water on top of the waste. Grades shall be kept to a slope steep enough (suggested minimum of 5%) to encourage quick runoff and to minimize infiltration.

Leachate seeps can occur due to a variety of circumstances. The goal in dealing with leachate seeps is to prevent seepage from leaving the limits of waste disposal areas and to minimize the potential for reoccurrence. If evidence of leachate seeps is observed, the Operator will take the following actions. Depending on the circumstances, various combinations of actions may be appropriate.

- a. If leachate is observed outside of the limits of waste disposal areas, notify NCDEQ.
 - b. Contain the flow of leachate using soil berms and/or excavation.
 - c. Excavate the area of seepage to attempt to allow flow into the underlying layers (i.e. break-up barriers that may be causing the seep.).
 - d. Run-on Control: Surface water run-on, when identified will be re-routed through the use of diversion berms and/or diversion ditches to prevent infiltration into the debris facility.
 - e. Surface Grading: Filling operations shall include grading with positive slopes (>5%) to promote runoff over the debris. At the end of each day, any low areas should be filled with debris and/or soil to prevent potential impounding of surface water. Furthermore, in the case of impending storms, periodic cover should be advanced to provide a “soil seal” to further promote runoff and minimize infiltration.
 - f. Facility Inspections: On a periodic basis, site personnel should conduct “walk-over” inspections to identify areas of settlement which may create additional areas of “ponding”. Any areas identified should be re-filled with debris and/or soil to further promote runoff. In the event, seeps are identified on the slopes or near the base of the facility, the area above the seeps shall be inspected for signs of inadequate cover or settlement and re-grading by placement of additional debris and/or soil
 - g. Leachate Diversion Trenches: In the event leachate seeps are identified along the outer slopes of the landfill or at the base, trenches are diverted back into the limits of waste by excavating trenches at and around the location of the seeps. These trenches are filled with a granular material to encourage the leachate to re-enter the waste containment area. Then the trench and seep area are covered with an impermeable type soil material (clay, silt, or clay mix) and compacted.
 - h. For contained leachate that will not flow into underlying layers, a pump may be required to route the leachate to an existing leachate collection area (pump station) or to a tanker truck.
 - i. The use of soil (particularly clay) to plug the seepage may also be successful in the case where flows are minor
 - j. Repair landfill cover as necessary.
18. Adequate erosion and sediment control measures, structures, and devices shall be employed and maintained to prevent silt from leaving the site and to prevent excessive erosion. The facility Erosion and Sediment Control Plan(s) as approved by NCDEQ shall be followed at all times.
19. The concentration of explosive gases, if generated by the facility, will not exceed the following:
- a. 25% of the lower explosive limit (LEL) for the gases in facility structures
 - b. The LEL for the gases at the property boundary
20. All incoming LCID waste shall go directly to the Landfill or to a recycle stockpile until it can be processed for sale or reuse. There is to be no excessive stockpile of unprocessed material within the processing area. Stockpiled

unprocessed Inert Debris and overage is to be covered with 6” of soil at least every 30 days.

21. The Cieszko LCID facility will engage in material processing from time to time in order to divert and reduce the amount of waste disposed of in the LCID landfill. The operations of the material processing will be as follows:
- a. Material determined to be acceptable for processing and diversion from the working face of the landfill or existing waste removed from the landfill shall be stored within the permitted limits of waste for the facility. This will be on the base grades of the cell or on areas of the landfill that have received final or intermediate cover.
 - b. Materials acceptable for grinding are as follows:
 - i. Woody material
 - ii. Untreated, unpainted, non-engineered wood
 - iii. Wood pallets
 - c. Materials acceptable for crushing/screening:
 - i. Unpainted concrete block
 - ii. Unpainted brick
 - iii. Unpainted and untreated concrete
 - iv. Uncontaminated soil, gravel or rock
 - d. All grinding, crushing and/or screening activities will be conducted within the approved landfill footprint. The grinding, crushing, screening and recovery operations will be conducted as needed, on a periodic basis, to facilitate landfill recovery and incoming waste operations by contracted equipment and operators. The contractor selected will be responsible for maintaining an adequate safety plan and procedures per current standards and the safety and maintenance literature of the equipment manufacturer.
 - e. Finished products anticipated to be produced from this process are as follows:
 - i. Mulch
 - ii. Amended Soil
 - iii. Crushed aggregate
 - f. Final products are to be used onsite at the Cieszko Facility for operational uses such as, but not limited to:
 - i. Road bed material
 - ii. Drainage media
 - iii. Topsoil amendment for seeding and stabilization
 - iv. Daily/Periodic cover of waste areas
 - v. Other uses as permitted by DWM
 - g. Processed materials will be stockpiled for use within the facility boundary in designated areas. A minimum buffer between stockpiles and other operations will be 20 feet. For safety and fire protection, stockpiles will be monitored for size and temperatures of less than 110 degrees Fahrenheit.
 - h. If the amount of stockpiled material is determined to exceed the quantity required for onsite operations, the Owner may choose to market the material to residential customers and businesses. The Landfill will keep records of all materials sold and leaving the site.

22. Periodically, the Operator will evaluate the overall landfill operations. At a minimum of twice yearly, an evaluation of the general site conditions will look for problems with routine operations. A site inspection checklist is attached to the end of this document. Any deficiencies can be incorporated into a “punch list” for further action. After evaluation, any deficiencies noted should be corrected and records kept of the correction.
23. Markers shall be placed to clearly delineate the edge-of-waste around the perimeter of every active, inactive and closed disposal area. All markers must be maintained throughout the life of the landfill and throughout the required period of post-closure care. In addition, facility staff should be aware of and be able to show Division staff the permitted boundary of the facility.
24. Closure Activities: On or before 120 calendar days after completion of any phase of disposal operations, or upon revocation of a permit, the disposal area shall be covered with a minimum of one foot of suitable soil cover sloped to allow surface water runoff in a controlled manner. The soil cover shall be fertilized, limed and seeded. Erosion control matting shall be applied to assist in achieving stabilization. Further actions in order to correct any condition which is or may become injurious to the public health or a nuisance to the community may be required by NCDEQ.
25. Post Closure Activities: Due to the non-putrescible nature of LCID waste, it is anticipated that the post-closure activities for the LCID landfill will not extend beyond cover/site maintenance. Once the LCID landfill is closed, the site will be stabilized with vegetation. Erosion and sediment control measures will be monitored and maintained throughout the post closure care period.

Under post closure care, the Operator shall maintain the closure cap on the LCID landfill as necessary. It is important that the vegetative cover be retained in a good condition and this task is accomplished through reseeding, fertilizing and mowing. The LCID landfill shall have a soil cap. The grass on the LCID landfill shall be mowed once a year. In addition, the access roads into and on the facility caps, and the stormwater conveyance system shall be maintained in good condition. These facilities shall be inspected periodically and repaired as necessary.

The LCID landfill property will be maintained as open space after completion of closure activities.

Should this location change, the Owner will notify the NCDEQ-DWM of the change.

SEMI-ANNUAL INSPECTION CHECKLIST

CIESZKO LCID LANDFILL SWS PERMIT #25-I

Date of Inspection: _____ **Weather:** _____

Inspector's Name: _____

Category	No.	Inspection Item to be Conducted	(Circle Answer)	
Site Access and Control	1	Is entrance gate and lock functioning properly?	Yes	No
	2	Is fencing maintained?	Yes	No
	3	Is access controlled by wooded areas where no fence exists?	Yes	No
	4	Are conditions of roads from State Road to landfill acceptable?	Yes	No
	5	Is traffic pattern safe for landfill users?	Yes	No
Waste Handling	6	Are wastes being deposited and contained within designated areas?	Yes	No
	7	Is working face contained to ½ acre or less?	Yes	No
	8	Are any unacceptable wastes present on working face or surrounding areas?	Yes	No
	9	Are unacceptable wastes removed from cell being handled and removed from site per the operational plan?	Yes	No
	10	Is surface water being properly diverted away from the working face?		
Closed and Inactive Areas	11	Are finished areas of the cell being properly covered with soils?	Yes	No
	12	Is there any waste exposed on inactive areas of the cell?	Yes	No
	13	Has final cover been applied to areas at final grade?	Yes	No
	14	Is vegetative cover established on closed and inactive areas?	Yes	No
	15	Is there settlement occurring or water ponding on closed or inactive areas?	Yes	No
	16	Does the vegetation require mowing and is the vegetation healthy?	Yes	No
Erosion and Sediment Control	17	Are the Erosion & Sediment Control devices being properly maintained?	Yes	No
	18	Is there any evidence of erosion, rills, or gullies on the surface of the landfill and surrounding areas?	Yes	No
	19	Do the sediment basins/traps require cleaning?	Yes	No
	20	Are inactive and closed areas receiving vegetative cover in a timely manner?	Yes	No
Records	21	Are previous inspection records up to date and properly filed?	Yes	No
	22	Is a copy of the current DWM permit in the file?	Yes	No
	23	Are records of facility audits by DWM present?	Yes	No
	24	Are records maintained of incoming waste volumes/loads?	Yes	No
	25	Are records of rejected loads/materials and actions taken maintained?	Yes	No

Notes: _____

(use back as necessary)

**SOLID WASTE MANAGEMENT FACILITY
 FIRE OCCURRENCE NOTIFICATION
 NC DENR Division of Waste Management
 Solid Waste Section**



Notify the Section verbally within 24 hours and submit written notification within 15 days of the occurrence.
(If additional space is needed, use back of this form.)

NAME OF FACILITY: _____ PERMIT # _____

DATE AND TIME OF FIRE: _____ @ _____

HOW WAS THE FIRE REPORTED AND BY WHOM:

LIST ACTIONS TAKEN:

WHAT WAS THE CAUSE OF THE FIRE:

DESCRIBE AREA, TYPE, AND AMOUNT OF WASTE INVOLVED:

WHAT COULD HAVE BEEN DONE TO PREVENT THIS FIRE:

DESCRIBE PLAN OF ACTIONS TO PREVENT FUTURE INCIDENTS:

NAME: _____ TITLE: _____ DATE: _____

 THIS SECTION TO BE COMPLETED BY SOLID WASTE SECTION REGIONAL STAFF
 DATE RECEIVED _____
 List any factors not listed that might have contributed to the fire or that might prevent occurrence of future fires:

FOLLOW-UP REQUIRED:
 NO PHONE CALL SUBMITTAL MEETING RETURN VISIT BY: _____ (DATE)

ACTIONS TAKEN OR REQUIRED:

CIESZKO LCID LANDFILL

CRAVEN COUNTY - NORTH CAROLINA 2016 PERMIT RENEWAL

MARCH 2016

OWNER/DEVELOPER:
CIESZKO CONSTRUCTION CO., INC.
POST OFFICE BOX 690
HAVELOCK, NC 28532-0690
PHONE: 252-447-2096
FAX: 252-447-0687



VICINITY MAP
NOT TO SCALE

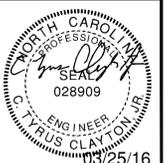
INDEX

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EROSION AND SEDIMENT CONTROL PLAN
No. CRAVE-2006-008 - DATE: SEPTEMBER 9, 2005

SOLID WASTE PERMIT
No. 25-I - DATE: MAY 8, 2006

REVISIONS
1. REVISED OWNERSHIP ON VICINITY MAP 03-04-11



Draper Aden Associates
Engineering • Surveying • Environmental Services

Blacksburg, VA
Richmond, VA
Hampton Roads, VA
Charlottesville, VA
Coats, NC Firm # C-0681
46 W. Washington Street
Coats, NC 27521
919-897-0700 Fax: 910-897-4767
www.daa.com



COVER SHEET
CIESZKO LCID LANDFILL
CRAVEN COUNTY - NORTH CAROLINA

REVISIONS
3/4/2011
REV. OWNERSHIP TRACTS

DESIGNED BY: CTC
DRAWN BY: JBR
CHECKED BY: CTC
SCALE: N/A
DATE: 3.23.2016
PROJECT NUMBER: R16104N-01G



Draper Aden Associates
 Engineering • Surveying • Environmental Services
 Blacksburg, VA
 Richmond, VA
 Hampton Roads, VA
 Charlottesville, VA
 Coats, NC Firm # C-0861
 48 W. Washington Street
 Coats, NC 27521
 919-897-0770 Fax: 910-897-4767
 www.daa.com



BASE GRADING PLAN
CIESZKO LCID LANDFILL
 CRAVEN COUNTY - NORTH CAROLINA

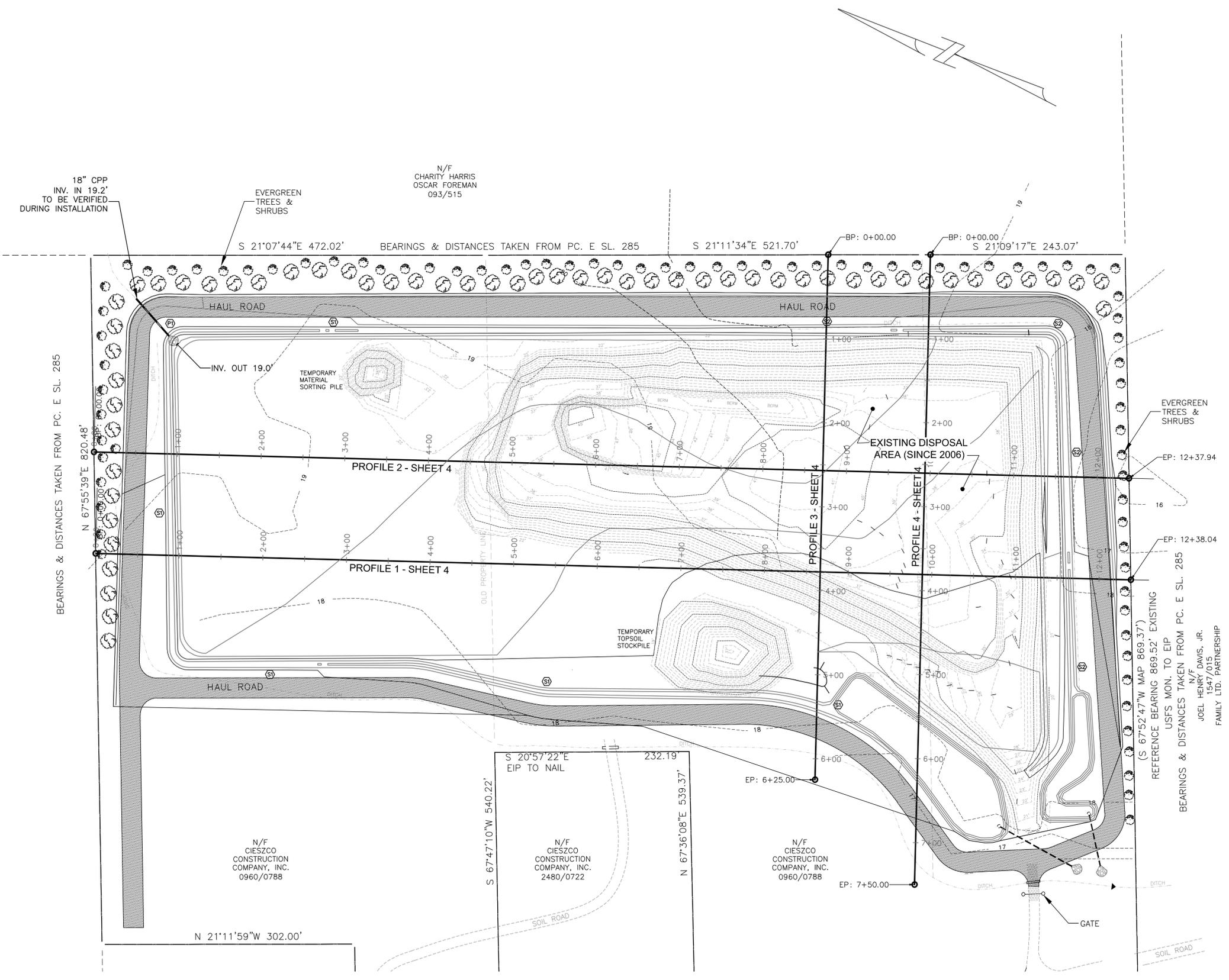
REVISIONS
 3/4/2011
 REV. OWNERSHIP TRACTS

DESIGNED BY: CTC
 DRAWN BY: JBR
 CHECKED BY: CTC
 SCALE: 1" = 60'
 DATE: 3.23.2016
 PROJECT NUMBER: R16104N-01G

LEGEND	SYMBOL
EXISTING CONTOURS - MAJOR	-----
EXISTING CONTOURS - MINOR	-----
PROPOSED CONTOURS - MAJOR	-----
PROPOSED CONTOURS - MINOR	-----
PROPERTY LINE	-----
LIMITS OF CONSTRUCTION	-----
SWALE	-----

- NOTES:
1. EXTEND RIPRAP OUTLET PROTECTION TO THE BOTTOM OF THE SEDIMENT BASINS.
 2. PERFORATE RISER 1 WITH 3-3 INCH HOLES EVENLY SPACED AT THE BARREL INVERT ELEVATION. PERFORATE RISER 2 WITH 3-2 INCH HOLES EVENLY SPACED AT THE BARREL INVERT ELEVATION.
 3. ALL OUTLET PROTECTION SHALL BE UNDERLAIN WITH A 6oz NON-WOVEN FILTER FABRIC. (AMOCO 2006 OR APPROVED EQUAL)
 4. CONSTRUCTION ROAD STABILIZATION SHALL INCLUDE THE PLACEMENT OF A 6" LIFT OF NCDOT ABC STONE AS REQUIRED TO PREVENT EROSION OF THE ROAD BED.
 5. ALL EXPOSED SLOPES SHALL BE SEEDED WITHIN 30 WORKING DAYS FOLLOWING COMPLETION OF ANY PHASE OF GRADING. PERMANENT GROUND COVER SHALL BE COMPLETED FOR ALL DISTURBED AREAS WITHIN 30 WORKING DAYS OR 120 CALENDAR DAYS (WHICHEVER IS SHORTER) FOLLOWING COMPLETION OF CONSTRUCTION.
 6. THE RECEIVING WATERCOURSE FOR ALL STORMWATER FLOW IS HANCOCK CREEK.
 7. DISTURBED ACREAGE: 15.9 ACRES
TOTAL ACREAGE OF TRACT: 17.8 ACRES
 8. IMPERVIOUS AREA (GRAVEL ROAD): 128,500 SF
TOTAL % IMPERVIOUS: 16.8%
 9. PROPERTY IS CURRENTLY CLEARED WITH SOME LIMITED GROUND COVER AND SMALL PINES.
 10. NO LAND DISTURBING ACTIVITY SHALL OCCUR ON ADJACENT PROPERTIES.
 11. THERE IS NO EVIDENCE OF WETLANDS ON THIS SITE.
 12. SEASONAL HIGH GROUNDWATER IS LOCATED A MINIMUM OF 4.5FT BELOW BASE GRADES.

STRU. No.	DESCRIPTION
(1)	SEDIMENT BASIN 24" RISER, 12" BARREL (SEE DETAIL)
(2)	SEDIMENT BASIN 24" RISER, 12" BARREL (SEE DETAIL)
(S1)	2' DEEP SWALE (SEE DETAIL)
(S2)	2' DEEP SWALE (SEE DETAIL)
(P1)	18" CPP (SMOOTH CORE)



P:\16104N\16104N-01G\CAD\16104N-01G.dwg (3/23/2016 10:52:27 AM)



Draper Aden Associates
 Engineering • Surveying • Environmental Services
 Blacksburg, VA
 Richmond, VA
 Hampton Roads, VA
 Charlottesville, VA



FINAL GRADING PLAN
CIESZKO LCID LANDFILL
 CRAVEN COUNTY - NORTH CAROLINA

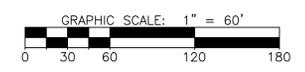
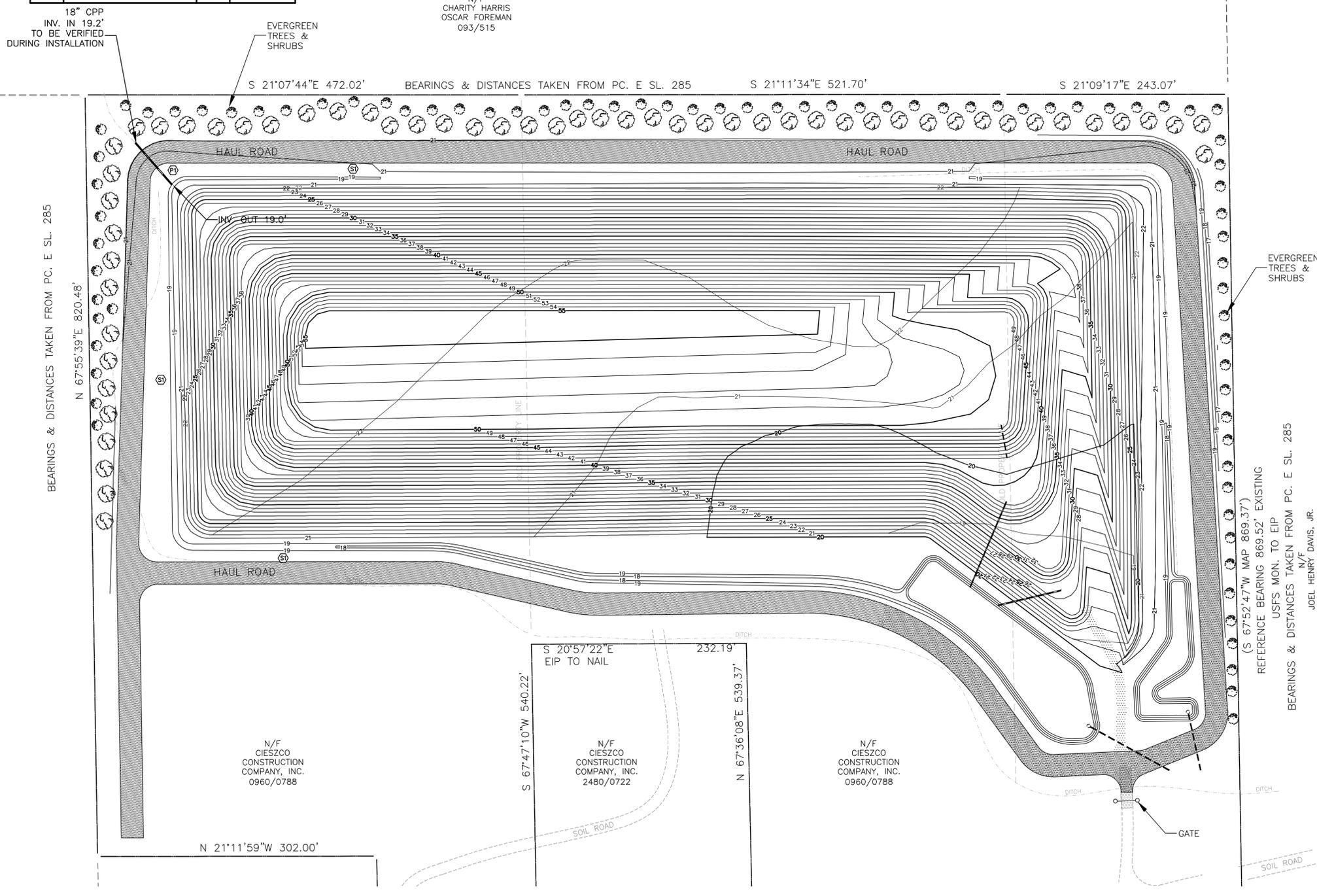
REVISIONS	
3/4/2011	REV. OWNERSHIP TRACTS
DESIGNED BY:	CTC
DRAWN BY:	JBR
CHECKED BY:	CTC
SCALE:	1" = 60'
DATE:	3.23.2016
PROJECT NUMBER:	R16104N-01G
3	

LEGEND	SYMBOL
EXISTING CONTOURS - MAJOR	-----
EXISTING CONTOURS - MINOR	-----
PROPOSED CONTOURS - MAJOR	-----
PROPOSED CONTOURS - MINOR	-----
PROPERTY LINE	-----
PROPOSED STORMWATER PIPES	-----
LIMITS OF CONSTRUCTION	-----
SWALE	-----
CELL SLOPE DRAINAGE SWALE	-----
STORMWATER/E&S STRUCTURE	(B)
PROPOSED AIRSPACE:	
265,000 cu yd.	

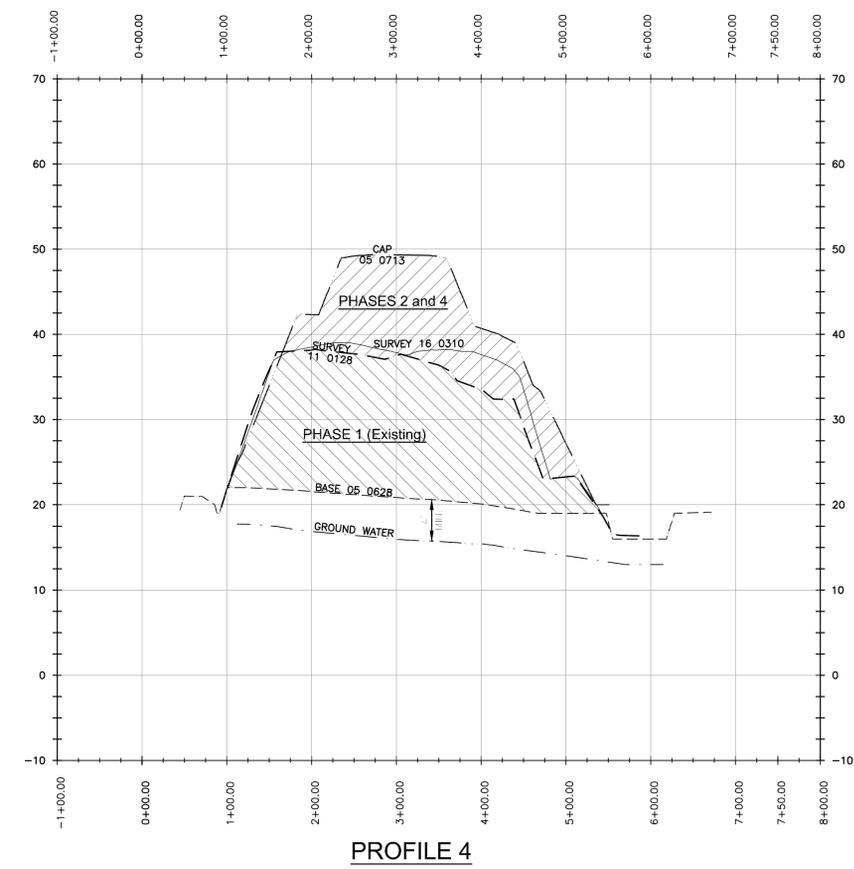
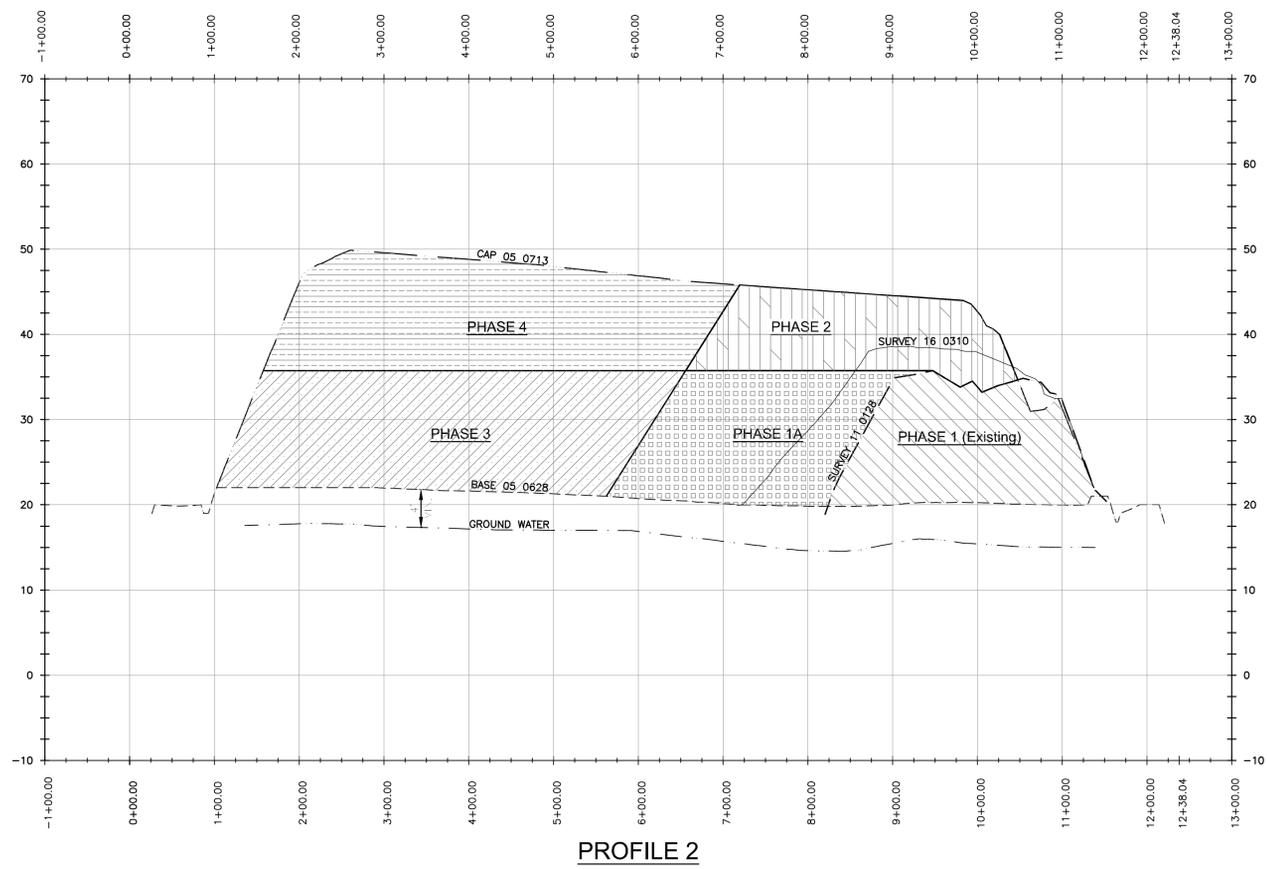
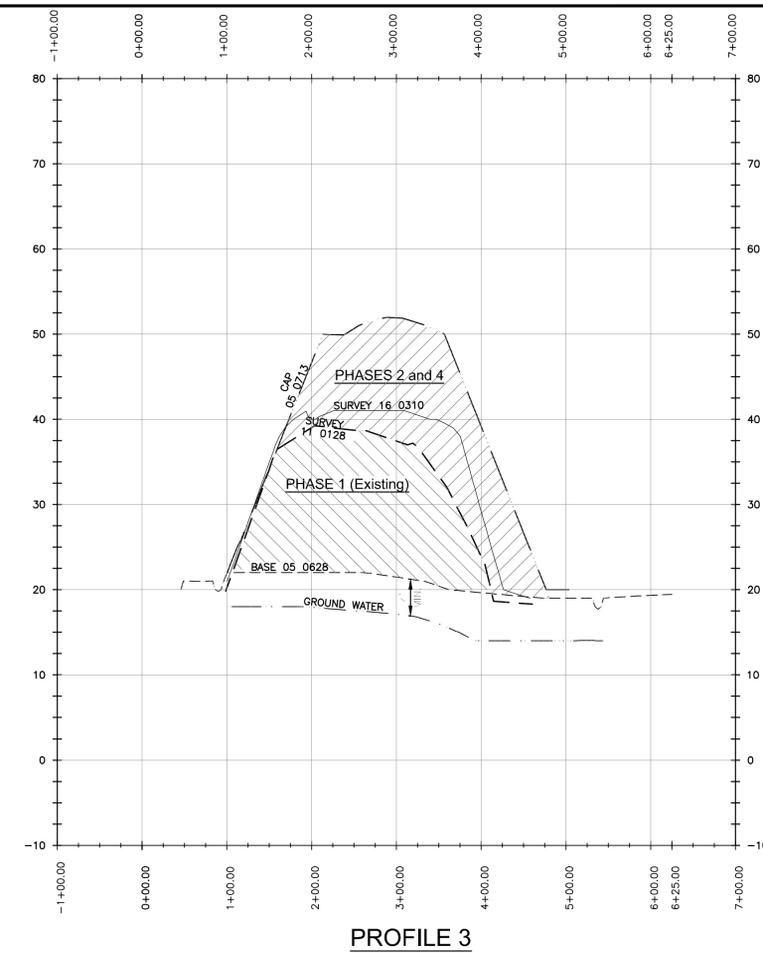
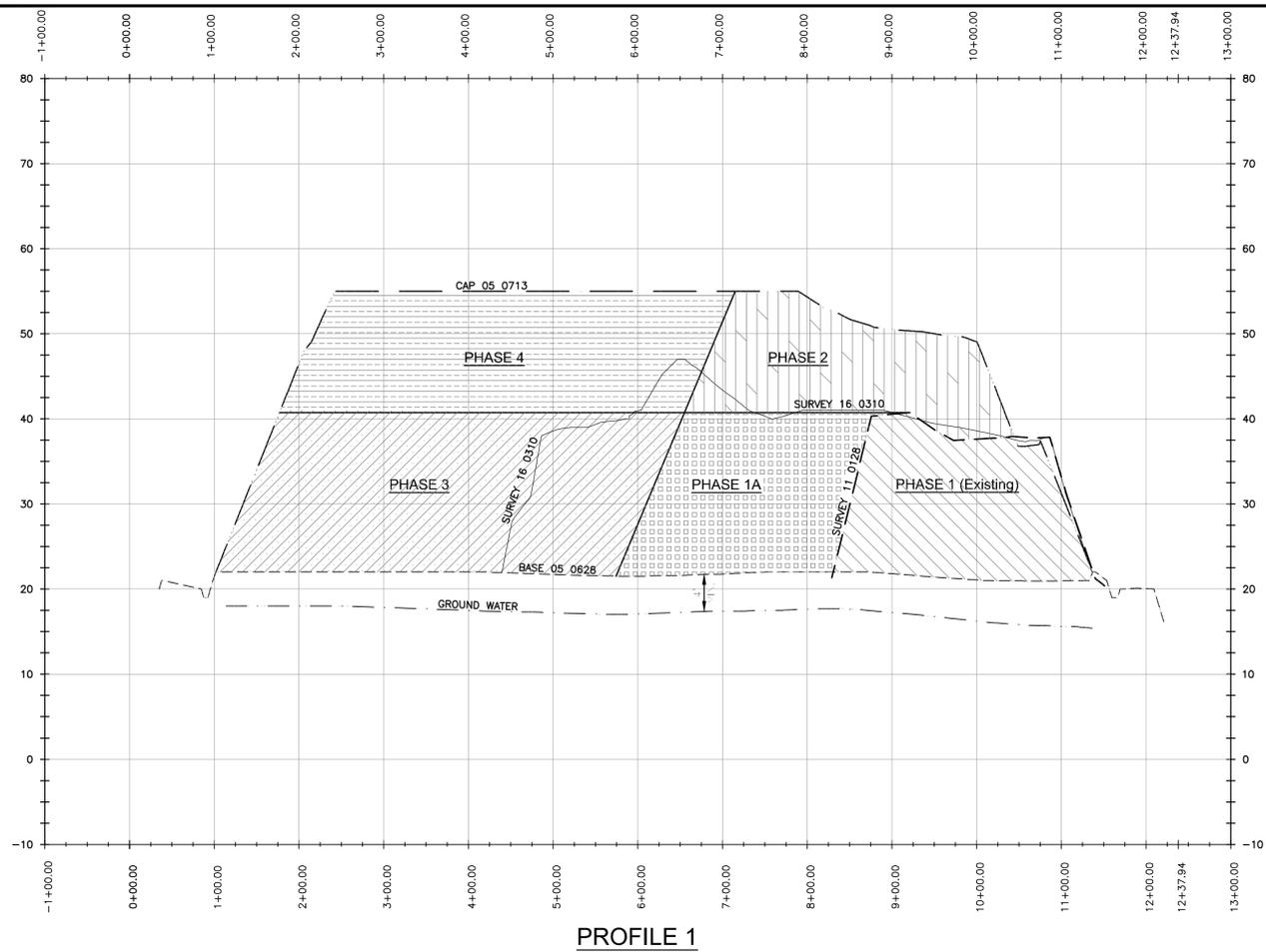
No.	TITLE	KEY	SYMBOL
6.62	SILT FENCE	(SF)	-----
N/A	CULVERT INLET PROTECTION	(CIP)	-----
6.41	OUTLET PROTECTION	(OP)	-----
6.06	TEMPORARY STONE CONSTRUCTION ENTRANCE	(CE)	-----
6.11	PERMANENT SEEDING	(PS)	-----
6.10	TEMPORARY SEEDING	(TS)	-----
6.20	TEMPORARY DIVERSION DIKE	(DD)	-----

- NOTES:**
- CLOSURE ACTIVITIES WILL COMMENCE WITHIN 30 DAYS AFTER THE DATE OF THE KNOWN FINAL RECEIPT OF WASTE FOR A SUBCELL, PER THE PROPOSED CLOSURE PLAN.
 - ALL EXPOSED SLOPES SHALL BE SEEDED WITHIN 30 WORKING DAYS FOLLOWING COMPLETION OF ANY PHASE OF GRADING. PERMANENT GROUND COVER SHALL BE COMPLETED FOR ALL DISTURBED AREAS WITHIN 30 WORKING DAYS OR 120 CALENDAR DAYS (WHICHEVER IS SHORTER) FOLLOWING COMPLETION OF CONSTRUCTION.
 - ALL OUTLET PROTECTION SHALL BE UNDERLAIN WITH A 6oz NON-WOVEN FILTER FABRIC. (AMOCO 2006 OR APPROVED EQUAL)
 - CONSTRUCTION ROAD STABILIZATION SHALL INCLUDE THE PLACEMENT OF A 6" LIFT OF NCDOT ABC STONE AS REQUIRED TO PREVENT EROSION OF THE ROAD BED.
 - THE RECEIVING WATERCOURSE FOR ALL STORMWATER FLOW IS HANCOCK CREEK.
 - DISTURBED ACREAGE: 15.9 ACRES
TOTAL ACREAGE OF TRACT: 17.8 ACRES
 - IMPERVIOUS AREA (GRAVEL ROAD): 128,500 SF
TOTAL % IMPERVIOUS: 16.8%
 - PROPERTY IS CURRENTLY CLEARED WITH SOME LIMITED GROUND COVER AND SMALL PINES.
 - THERE IS NO EVIDENCE OF WETLANDS ON THIS SITE.
 - NO LAND DISTURBING ACTIVITIES TO OCCUR ON ADJACENT PROPERTIES.

STRU. No.	DESCRIPTION
(1)	SEDIMENT BASIN 24" RISER, 12" BARREL (SEE DETAIL)
(2)	SEDIMENT BASIN 24" RISER, 12" BARREL (SEE DETAIL)
(S1)	2' DEEP SWALE (SEE DETAIL)
(S2)	2' DEEP SWALE (SEE DETAIL)
(OP)	15" CPP
(CS1)	2' DEEP CELL SLOPE SWALE (SEE DETAIL)
(CP)	15" CPP
(CS2)	2' DEEP CELL SLOPE SWALE (SEE DETAIL)
(P2)	15" CPP
(P1)	18" CPP (SMOOTH CORE)



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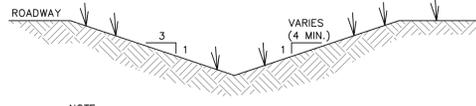
PROFILES
CIESZKO LCID LANDFILL
 CRAVEN COUNTY - NORTH CAROLINA

REVISIONS

3/4/2011	REV. OWNERSHIP TRACTS
----------	-----------------------

DESIGNED BY:	CTC
DRAWN BY:	JBR
CHECKED BY:	CTC
SCALE:	1"=100' HORZ. / 1"=10' VERT.
DATE:	3.23.2016
PROJECT NUMBER:	R16104N-01G
4	

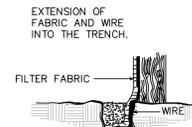
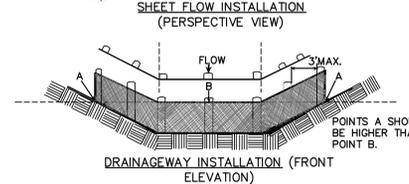
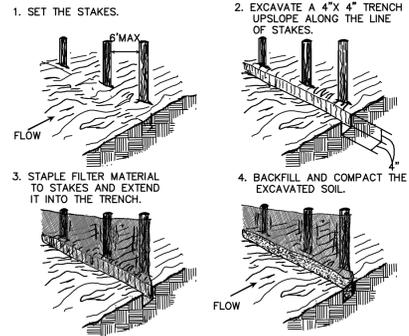
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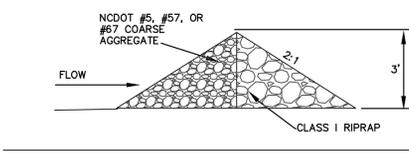
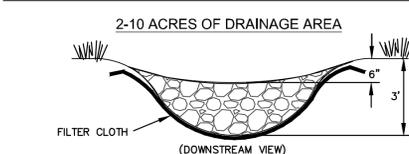
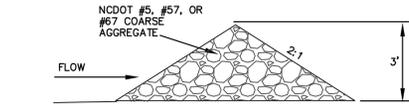
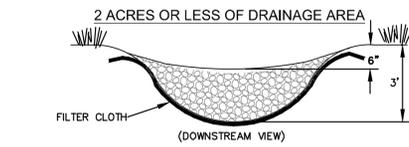
NOTE:
ALL SWALES MUST RECEIVE TEMPORARY SEEDING IMMEDIATELY AFTER INSTALLATION AND PERMANENT SEEDING AS SOON AS POSSIBLE.

SEE STRUCTURE TABLE ON SHEET 2 FOR SWALE DEPTHS.

GRASS LINED SWALE (TYP)
NOT TO SCALE

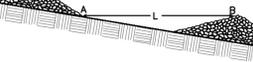


CONSTRUCTION OF A SILT FENCE (WITHOUT WIRE SUPPORT)
NOT TO SCALE

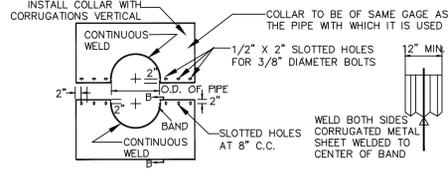


SPACING BETWEEN CHECK DAMS

L = THE DISTANCE SUCH THAT POINTS A AND B ARE OF EQUAL ELEVATION



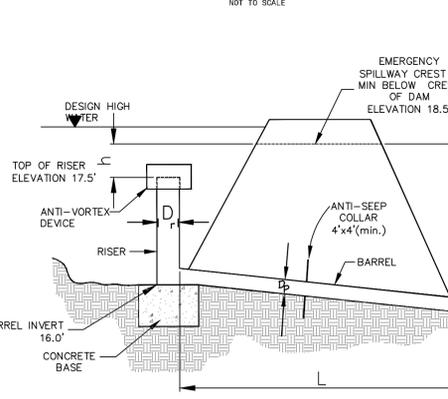
ROCK CHECK DAM
NOT TO SCALE



ELEVATION OF UNASSEMBLED COLLAR **SECTION B-B**

NOTES FOR COLLARS:
1. ALL MATERIALS TO BE IN ACCORDANCE WITH CONSTRUCTION AND CONSTRUCTION MATERIAL SPECIFICATIONS.
2. WHEN SPECIFIED ON THE PLANS, COATING OF COLLARS SHALL BE IN ACCORDANCE WITH CONSTRUCTION AND CONSTRUCTION MATERIAL SPECIFICATIONS.
3. UNASSEMBLED COLLARS SHALL BE MARKED BY PAINTING OR TAGGING TO IDENTIFY MATCHING PAIRS.
4. THE LAP BETWEEN THE TWO HALF SECTIONS, AND BETWEEN THE PIPE AND CONNECTING BAND SHALL BE CAULKED WITH ASPHALT MASTIC AT TIME OF INSTALLATION.
5. EACH COLLAR SHALL BE FURNISHED WITH TWO 1/2" DIAMETER RODS WITH STANDARD TANK LUGS FOR CONNECTING COLLARS TO PIPE.

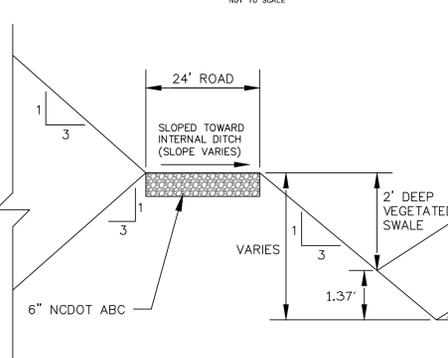
DETAILS OF CORRUGATED METAL ANTI-SEEP COLLAR (TYP)
NOT TO SCALE



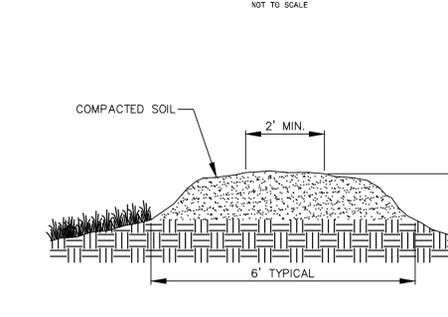
H = HEAD ON PIPE THROUGH EMBANKMENT
h = HEAD OVER RISER CREST
L = LENGTH OF PIPE THROUGH EMBANKMENT
D = DIAMETER OF PIPE THROUGH EMBANKMENT
d = DIAMETER OF RISER
b = WIDTH OF EMERGENCY SPILLWAY BOTTOM

	SEDIMENT BASIN 1	SEDIMENT BASIN 2
H	2.5ft	2.5ft
h	1ft	1ft
L	100ft	65ft
D	12in	12in
d	24in	24in
b	8ft	8ft

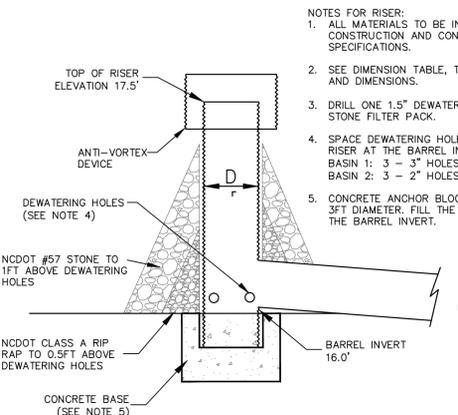
PRINCIPAL SPILLWAY DESIGN DETAIL (TYP)
NOT TO SCALE



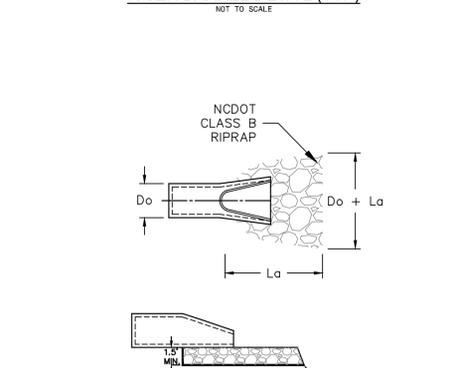
PROPOSED CELL/BERM AND HAUL ROAD TYPICAL CROSS-SECTION
NOT TO SCALE



TEMPORARY EARTHEN DIVERSION DIKE
NOT TO SCALE



RISER BARREL DETAIL (TYP)
NOT TO SCALE



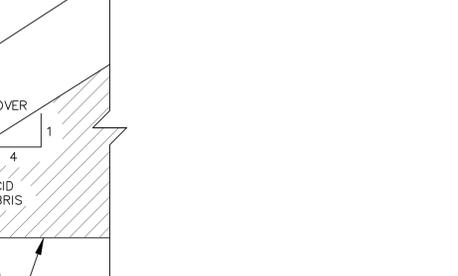
OUTLET PROTECTION
NOT TO SCALE

	D _o	L _a	D _o + L _a	RIP RAP
PIPE TO BASIN 1	15"	8'	10'	CLASS 1
SPILLWAY BARREL 1	12"	6'	7'	CLASS A
SPILLWAY BARREL 2	12"	8'	9'	CLASS A

DETAILS OF CORRUGATED METAL ANTI-SEEP COLLAR (TYP)
NOT TO SCALE



PRINCIPAL SPILLWAY DESIGN DETAIL (TYP)
NOT TO SCALE



PROPOSED CELL/BERM AND HAUL ROAD TYPICAL CROSS-SECTION
NOT TO SCALE



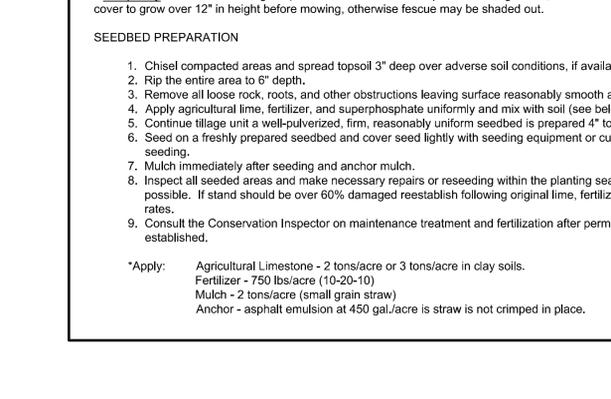
TEMPORARY EARTHEN DIVERSION DIKE
NOT TO SCALE



RISER BARREL DETAIL (TYP)
NOT TO SCALE

NOTES FOR RISER:
1. ALL MATERIALS TO BE IN ACCORDANCE WITH CONSTRUCTION AND CONSTRUCTION MATERIAL SPECIFICATIONS.
2. SEE DIMENSION TABLE, THIS SHEET, FOR HEIGHTS AND DIMENSIONS.
3. DRILL ONE 1.5" DEWATERING HOLE ABOVE THE STONE FILTER PACK.
4. SPACE DEWATERING HOLES EVENLY AROUND THE RISER AT THE BARREL INVERT ELEVATION. BASIN 1: 3 - 3" HOLES
BASIN 2: 3 - 2" HOLES
5. CONCRETE ANCHOR BLOCK SHALL BE 2FT THICK X 3FT DIAMETER. FILL THE RISER WITH CONCRETE TO THE BARREL INVERT.

DETAILS OF CORRUGATED METAL ANTI-SEEP COLLAR (TYP)
NOT TO SCALE



PRINCIPAL SPILLWAY DESIGN DETAIL (TYP)
NOT TO SCALE

	D _o	L _a	D _o + L _a	RIP RAP
PIPE TO BASIN 1	15"	8'	10'	CLASS 1
SPILLWAY BARREL 1	12"	6'	7'	CLASS A
SPILLWAY BARREL 2	12"	8'	9'	CLASS A

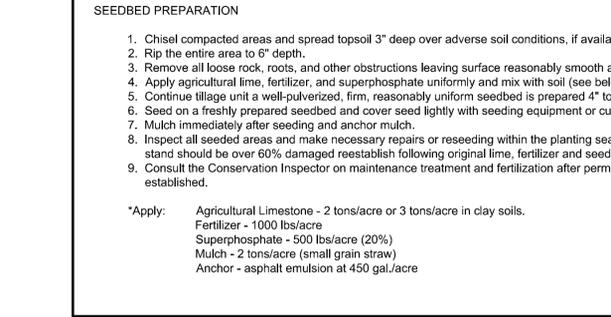
OUTLET PROTECTION
NOT TO SCALE



PRINCIPAL SPILLWAY DESIGN DETAIL (TYP)
NOT TO SCALE



PROPOSED CELL/BERM AND HAUL ROAD TYPICAL CROSS-SECTION
NOT TO SCALE



TEMPORARY EARTHEN DIVERSION DIKE
NOT TO SCALE

TEMPORARY SEEDING SCHEDULE

Shoulders, Side Ditches, Slopes

DATE:	TYPE:	PLANTING RATES:	
Aug 15 - Dec 31	Rye (grain)	120 lbs./acre	
Dec 31 - May 1	Rye (grain) Annual Lespedeza*	120 lbs./acre 50 lbs./acre	
May 1 - Aug 15	German Millet	40 lbs./acre	

Consult the Conservation Engineer or the Soil Conservation Service for additional information concerning other alternative for vegetation of denuded areas.

Ground cover must be installed on exposed slopes within 15 working days or 30 calendar days following completion of any phase of grading.

* Omit annual lespedeza when duration of temporary cover is not to extend beyond June.

**Temporary - Reseed according to optimum season for desired permanent vegetation. Do not allow temporary cover to grow over 12" in height before mowing, otherwise fescue may be shaded out.

SEEDBED PREPARATION

- Chisel compacted areas and spread topsoil 3" deep over adverse soil conditions, if available.
- Rip the entire area to 6" depth.
- Remove all loose rock, roots, and other obstructions leaving surface reasonably smooth and uniform.
- Apply agricultural lime, fertilizer, and superphosphate uniformly and mix with soil (see below*).
- Continue tillage unit a well-pulverized, firm, reasonably uniform seedbed is prepared 4" to 6" deep.
- Seed on a freshly prepared seedbed and cover seed lightly with seeding equipment or cultipack after seeding.
- Mulch immediately after seeding and anchor mulch.
- Inspect all seeded areas and make necessary repairs or reseeding within the planting season, if possible. If stand should be over 60% damaged reestablish following original lime, fertilizer and seeding rates.
- Consult the Conservation Inspector on maintenance treatment and fertilization after permanent cover is established.

*Apply: Agricultural Limestone - 2 tons/acre or 3 tons/acre in clay soils.
Fertilizer - 750 lbs/acre (10-20-10)
Mulch - 2 tons/acre (small grain straw)
Anchor - asphalt emulsion at 450 gal./acre is straw is not crimped in place.

PERMANENT SEEDING SCHEDULE

Shoulders, Side Ditches, Slopes (Max. 3:1)

DATE:	TYPE:	PLANTING RATES:	
Aug 15 - Nov 1	Tall Fescue	300 lbs./acre	
Nov 1 - Mar 1	Tall Fescue and Abruzzi Rye	300 lbs./acre 25 lbs./acre	
Mar 1 - Apr 15	Tall Fescue	300 lbs./acre	
Apr 15 - Jun 30	Hulled Common Bermudagrass	25 lbs./acre	
Jul 1 - Aug 15	Tall Fescue and *Browntop Millet *or Sorghum - Sudan Hybrids	120 lbs./acre 35 lbs./acre 30 lbs./acre	
Slopes (3:1 to 2:1)			
Mar 1 - Jun 1 (Mar 1 - Apr 15)	Sericea Lespedeza (scarified) and Add Tall Fescue	50 lbs./acre 120 lbs./acre	
(Mar 1 - Jun 30)	Or Add Hulled Common Bermudagrass	25 lbs./acre	
Jun 1 - Sep 1	*Tall Fescue and *Browntop Millet *or Sorghum - Sudan Hybrids	120 lbs./acre 35 lbs./acre 30 lbs./acre	
Sep 1 - Mar 1	Sericea Lespedeza (unhulled - unscarified) and Tall Fescue	70 lbs./acre 120 lbs./acre	
(Nov 1 - Mar 1)	Add Abruzzi Rye	25 lbs./acre	

Consult the Conservation Engineer or the Soil Conservation Service for additional information concerning other alternative for vegetation of denuded areas.

Permanent ground cover must be installed on all disturbed areas within 15 working days or 90 calendar days (whichever is shorter) following completion of construction or development.

**Temporary - Reseed according to optimum season for desired permanent vegetation. Do not allow temporary cover to grow over 12" in height before mowing, otherwise fescue may be shaded out.

SEEDBED PREPARATION

- Chisel compacted areas and spread topsoil 3" deep over adverse soil conditions, if available.
- Rip the entire area to 6" depth.
- Remove all loose rock, roots, and other obstructions leaving surface reasonably smooth and uniform.
- Apply agricultural lime, fertilizer, and superphosphate uniformly and mix with soil (see below*).
- Continue tillage unit a well-pulverized, firm, reasonably uniform seedbed is prepared 4" to 6" deep.
- Seed on a freshly prepared seedbed and cover seed lightly with seeding equipment or cultipack after seeding.
- Mulch immediately after seeding and anchor mulch.
- Inspect all seeded areas and make necessary repairs or reseeding within the planting season, if possible. If stand should be over 60% damaged reestablish following original lime, fertilizer and seeding rates.
- Consult the Conservation Inspector on maintenance treatment and fertilization after permanent cover is established.

*Apply: Agricultural Limestone - 2 tons/acre or 3 tons/acre in clay soils.
Fertilizer - 1000 lbs/acre
Superphosphate - 500 lbs/acre (20%)
Mulch - 2 tons/acre (small grain straw)
Anchor - asphalt emulsion at 450 gal./acre



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DETAILS - 1
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CRAVEN COUNTY - NORTH CAROLINA

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3/4/2011
REV. OWNERSHIP TRACTS

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